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South African Minerals Policy

SHAKESPEARE'S division of a man's life into a series of clearly demarcated stages ("each man in his time plays many parts") is to some extent applicable to the growth of an industrial nation.

First, the so-called "backward" country whose mineral resources are exploited solely for export to manufacturers overseas. Next, the establishment of processing industries based on indigenous materials. Then, a ban on the export of unprocessed minerals and possibly the importation of additional supplies from other countries. The final stages are as yet unknown, and we can only trust that the industrial nations will not end up, after the manner of Shakespeare's old man, sans minerals, sans factories, sans anything!

In practice, the various stages in this process of economic development are by no means well defined, more especially since even such an industrially advanced country as the United States may remain an exporter of certain minerals. A rapidly developing nation with extensive mineral resources is liable to find itself in the difficult position of having to decide whether and to what extent export markets for minerals should be sacrificed in the long-term interests of its own existing or potential processing industries. In some respects the Union of South Africa appears to be confronted with this rather difficult choice and it is hardly surprising that some conflict of opinion has seemingly arisen.

There has evidently been some doubt as to the official attitude towards exports of certain minerals which represent an important part of the country's natural resources. Until very recently exports of these minerals have been physically restricted by the shortage of rolling stock. In view of the increasing carrying capacity of the railways and prospects of the easing or ending of the transport bottleneck, the official attitude to unrestricted exports has become a matter of some interest for firms with exportable reserves of minerals and of concern for those foreseeing the possibility of the government applying for export quotas.

A few days ago a question on the subject of mineral exports brought an official reply that the South African Government had no policy objection to the unlimited export of manganese, chrome and iron ores, or of coal in the years immediately ahead.

A ceiling did apply, until recently, on the amount of manganese ore that could be exported. However, following the discovery of additional reserves, this ceiling has been removed. In any case, at 1,000,000 tons annually, it never looked like being reached.

In this connection it is noteworthy that, included in a £5,824,000 harbour development project, which has been approved by Parliament, is a £2,487,000 plan to make Port Elizabeth the Union's main manganese-ore exporting port. In about three years' time, when the manganese facilities are completed, the port will be able to handle about 700 tons of ore an hour.

The estimated total coal resources of the Union are of the order of 225,000,000,000 s.tons. Much of these reserves are of low grade, however, and there is a deficiency of good coking coals.

Nevertheless, an abundance of good quality coal has already been proved, and this is sufficient to serve most of the country's needs for several hundreds of years, even after allowing for a considerable increase on the present rate of consumption. In 1938, 2,249,000 s.tons, representing 13 per cent of the Union's coal output, were exported and bunkered. In 1956, however, exports amounted to only 544,974 s.tons (exclusive of the bunker trade), although production reached the impressive total of 37,039,706 tons. In a coal-hungry world there is clearly scope for the rehabilitation of the country's once flourishing export trade, assuming that quality and price are right.

The South African Government recognizes, of course, that it is to the country's advantage to export processed materials rather than crude and will do all in its power to encourage the development of processing industries. The manufacture of ferro-manganese, for example, will shortly be undertaken and this industry is likely to become an important earner of foreign exchange. It would take a very long time, however, to build up the vast handling capacity necessary to process a major portion of the Union's mineral exports. Meanwhile, the government has no intention of preventing unprocessed exports from finding markets.

This view is evidently not universally shared. At the opening a few days ago of Iscor's new coal research plant, Dr. F. J. du Toit, chairman of Iscor, and Professional Adviser to the Minister of Economics, said that he had always revolted against the wasteful utilization of the Union's raw materials in an unbeneficiated state and that, personally, he would not hesitate to place a total embargo on the export of any raw material which had not first undergone several stages of manufacture in the Union.

Dr. du Toit pointed out that reliance on exports of raw materials involved the exploitation of high-grade occurrences, often resulting in the abandonment of less rich material which, through economic factors, could not be worked profitably for a long time—if ever. Having regard to the world-wide concern over the decline in the available supplies of high-grade deposits, it was in the common interests that these should be conserved. The semi-processing of minerals in the countries where ores are found was an important step towards this, since in many instances it allowed economic exploitation of the lower grades.

So far as manganese, chrome, iron and coal are concerned, South Africa with its immense resources appears to be in the happy position of being able to eat its cake and have it too. It seems inevitable, however, that throughout the exporting countries there should be growing support for the policy advocated by Dr. du Toit. The principle of conserving mineral resources for domestic needs is, within broad limits, both logical and reasonable, and it is likely to be more widely followed by countries seeking to establish their own processing industries. The effects of this probable trend on the broad pattern of world industry cannot as yet be clearly discerned, but they might well be profound.

SECOND THOUGHTS IN BOLIVIA

Some five months ago a team of U.S. mining experts went to Bolivia to determine how mining could make a maximum contribution to Bolivia's economy. The published report (see *M.J.*, April 5, 1957, p. 421) analyzed in some detail the reasons for the rapidly worsening situation in Bolivia's mining industry. Essentially, it laid responsibility for the country's poor mining position on the deterioration of equipment, low efficiency, shrinkage of working capital, deficiency of technical and administrative personnel and the closure of mines during 1953-1954. These and other points led to the general conclusion that unless the Bolivian Government separated political activities from the administration of the mines, the entire mining industry would continue to suffer.

However blunt and realistic the report and however unpalatable, justification for the views expressed is seen in the fact that official mineral production and export figures for the first quarter of 1957 were "significantly lower" than in any corresponding period in recent years. This latter comment was made by the Foreign Commerce Bureau who stated that the contraction in production and exports was attributable to work stoppages, lack of machinery and spare parts, inadequate development work and the readjustments necessitated by the adoption of the stabilization programme which was begun at the end of last year.

These disappointing results, coming as they did on top of the U.S. experts' report, has seemingly made its impact on the Bolivian Government. In June the government proposed several measures to halt the declining national revenue from the tin mines. One proposal reported is the recommendation to build a "semi-industrial" tin smelter which, it is hoped, would eventually result in the export of higher grade tin concentrates. To this end the Minister of Mines has designated certain Bolivian mining engineers to convert a part of the existing facilities at the Machacamarca Mill for large-scale tests of the fuming process developed in Bolivia and in Germany. It is envisaged that the use of this process will convert concentrates of 20 per cent and below to 60 per cent concentrates which would be more suitable and economical for export purposes.

Another proposal involves a loan from the International Bank for Reconstruction and Development to modernize and expand the beneficiating plants at Catavi and Colquiri. These improvements would allow a greater recovery of tin from the ores extracted from these two mines and although representatives of the I.B.R.D. recently made a preliminary study of the mines and milling facilities at Catavi and Colquiri, so far as is known no action has been taken with regard to the loan.

One concrete measure of help now instituted to halt the decline in tin production has been a decree re-establishing the bonus payments, primarily to underground workers in the nationalized mines. This, it is hoped, will result in a rise in production from the nationalized mines, particularly in view of the serious decline registered in the first four months of this year. But what may prove to be the government's most rewarding and forward-looking step is the report that the government is actively engaged in attempting to attract private capital for the development of the mining industry. It is understood that a legal firm have entered into a contract to develop a new Bolivian mining code which is scheduled for completion before the end of this year.

Another important step which the Bolivian Government has taken is to clear up the compensation position for those properties nationalized in 1952. In this connection the *American Metal Market* states that the U.S. Embassy at La Paz has reported that negotiations are under way between the Patino mining interests and a Government Commission appointed in 1956 for establishing the value of the Patino properties. But no figures are expected to be released as to the total indemnification for several months. However, the Bolivian Ministry of Mines has announced that government payments to the former owners of the nationalized mines amounted to $12,166,000 by the end of March, 1956. Of this sum the Patino interests received $4,625,000, the Aramayo interests $2,164,000 and the Hochchild Group $5,377,000.

One way and another, therefore, the Bolivian Government appears to have taken its critics to heart. The proposals now in hand are certainly an earnest of its intentions —but only that. And it remains to be seen how far and to what extent these will be supported by further and more widespread measures to raise up the Bolivian mining industry to its former prosperity.

MINING CONCESSIONS IN PAKISTAN

Pakistan's increasing interest in exploiting its raw material resources has been recorded in these columns more than once in recent months. Indeed, the instituting and organizing of the requisite bodies for this task has been proceeding apace as was in evidence from a note in last week's issue in which it was revealed that the West Pakistan Government is setting up a Mineral Development Corporation for the exploitation of the mineral resources in the North-West Frontier regions.

A report has now been received that under the new constitution, responsibility for the grant of mining concessions in respect of minerals other than mineral oil and natural gas, minerals required for the production of nuclear energy, iron ore, manganese, tungsten and vanadium has been transferred from the Federal Government to the Provincial Governments. Accordingly, the Provincial Governments are forming their own organizations for the granting of mineral concessions.

Thus, the present position is that the Federal Government is now responsible for the exploration and exploitation of mineral oil and natural gas and the grant of mining concessions for minerals not transferred to the provinces. With regard to oil, the exploration for which has considerably increased, the bulk of the work is now being dealt with through the Department of Mineral Concessions.

In view of these changes, it has become necessary to change the name of the "Department of Mineral Concessions" to the "Department of Petroleum and Minerals" and to change the designations "Director, Mineral Concessions" (Ex-officio Director of Petroleum) to "Petroleum and Minerals Commissioner".

The "Department of Petroleum and Minerals" will continue to administer the Pakistan Mining Concessions Rules 1949 and the Pakistan Petroleum (Production) Rules 1949.

MINERALS VERSUS WOOL

Value of Australian mineral production has now approached very closely that of wool and it is not impossible, that with maintenance of existing metal prices, the additions from uranium in the next two years, bauxite in the same period, and beach sand mining, the mining industry may take the leading place. In 1956 the value of the mineral industry was £A200,000,000, and of this total, £A84,000,000 worth of metals and minerals was exported.

Favourable features toward the future of the industry are the development of the bauxite deposit already mentioned, estimated to contain 1,000,000,000 tons of commercial ore; greatly increased reserves of copper, lead and zinc at Mount Isa; the development of ilmenite deposits in Western Australia, and of beach sand mining generally in the Eastern States. There are also the change-over at Port Pirie of the new acid plant to lead sinter gases, the opening of the ammonium sulphate plant at Risdon and the decision to expand the zinc refining capacity of the Risdon works.

Copper production has now reached 53,344 tons per year and will increase; rutile production was 96,327 tons in 1946 and that of zircon 72,458 tons. If the price level for rutile is maintained, an output of 180,000 tons this year is possible. Gold production for 1956 was 1,029,926 oz., despite increased costs. Copper refinery capacity is being increased by Mount Isa Mines, and a zinc industry is planned by Zinc Corporation at Cockle Creek, New South Wales, as well as increased superphosphate production.

INDIA'S MINERAL PRODUCTION

India's mineral production has increased by 10 per cent since 1954, according to Mr. K. D. Malaviya, Minister for Mines and Oil, Government of India.

The Minister, who was presiding over the fifth conference of the Mineral Advisory Board, in Simla, said that the total value of mineral production in India had gone up from Rs.1,020,000,000 in 1954 to about Rs.1,170,000,000 in 1956. In the same period, the total value of exports of minerals had also gone up from Rs.357,000,000 to about Rs.390,000,000.

In spite of all difficulties, coal production went up by 1,200,000 tons, State collieries contributing 100,000 tons. Iron ore, bauxite, magnesite and manganese ore registered distinct rises. Production of lead and zinc showed an upward trend. Production of aluminium ore, however, fell by 1,000 tons as compared with the figures of 1955.

Increased activities are contemplated for the Geological Survey of India and the Indian Bureau of Mines in the field of mineral investigation and proving. Particular attention has been laid on the prospecting of minerals, of which India is in very short supply. The Geological Survey of India, apart from its usual ground operations, is undertaking aerial, aero-magnetic and other surveys of some areas in collaboration with the Government of Canada under the Colombo Plan. The Indian Bureau of Mines has taken up proving operations for copper at Khetri and Daribo, is about to do so for pyrites at Ajmer, and is contemplating the same for diamonds in Panna and lignite in Kashmir.

The Geological Survey of India and the Indian Bureau of Mines have recently been collecting data with regard to all copper, lead and zinc deposits for the planned development of these minerals.

COAL COMMITTEE MEETS

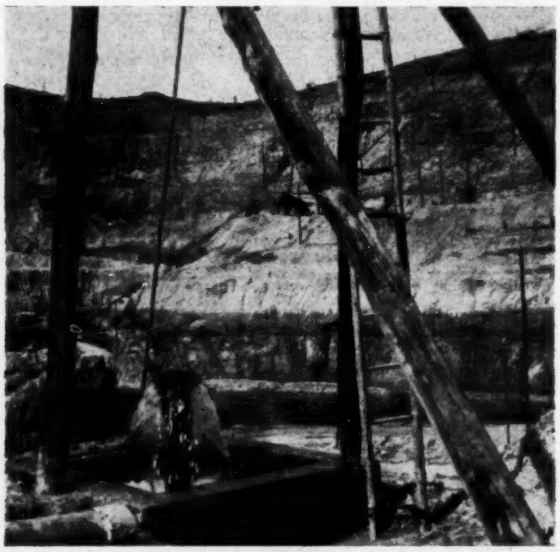
The Coal Committee of the Council of Association between the U.K. and the European Coal and Steel Community met last week to discuss the present coal situation. Largely as a result of a substantial rise in home stocks, the U.K. delegation have agreed to meet in part the demand by the Pool countries for more British coal. For some time the Community has been trying to buy more British coal in preference to the high-priced U.S. product. Although the additional 300,000 tons of small steam-raising coal to be bought from the U.K. will not materially alleviate the Community's fuel problem, the decision by the British Government to release more coal to Europe is very welcome in that it shows a relaxing of the measures taken last year to substantially curtail Britain's coal export programme. The British delegation also intimated their agreement regarding long-term contracts for small coal.

The Committee also decided to set up working parties of experts to study the possibilities of widening the range of coals suitable for coking and to secure the wider use of low-grade fuels in colliery power stations.

Lignite in the

IN April, 1949, the Secretariat of the United Nations Economic Commission for Asia and the Far East (ECAFE) was directed to make a comprehensive study of coal and iron ore resources within the region. In the resulting study, the predominance of lignite deposits in many countries of the region, the limited occurrence of high grade coals in a few countries, and the general scarcity of coking coals, were pointed out. The widest possible utilisation of lignite was shown to be a matter of considerable importance for the industrial development of the region. A detailed outline for a study on lignite has since been prepared and is the basis of a report entitled *Lignite Resources of Asia and the Far East, their Exploration, Exploitation and Utilisation*, which has been published by the United Nations as Mineral Resources Development Series No. 7. The price is 11s. Stg. or $1.50 (U.S.).

Lignite deposits are known to occur in Afghanistan, but their exact extent has not yet been determined. The present demand for coal in Afghanistan is small. Production comes principally from two mines : the Ishpushta, located about 294 km. from Kabul, and the Karkar near the industrial town of Pule Khunri. The combined production is about 20,000 tons/annum. A coal deposit at Nachary, Southern Province, is being investigated, and the development of Dara-I-Suf deposit is under consideration.



In Burma coals ranging from the Mesozoic to Tertiary age have been found. So far as quantity is concerned, the Tertiary coals are the most important, and these coals are largely of a lignite type. The important known areas are Lashio, Mansang, Namma, Palaung, Kalewa, Shwebo, and Theindaw-Kawmapyin, Mergui district. Owing to the high percentage of volatile constituents and of moisture, the calorific value is usually low. Many of these coals also disintegrate into small fragments on exposure to air. For these reasons past attempts to exploit these deposits proved unsuccessful. However, determined efforts are being made by the Government to exploit deposits near Kalewa in Upper Chindwin district. Production is now about 50 tons per day, and at the beginning of 1956 the first locomotive heated with Kalewa coal reached Rangoon.

Target production from the Kalewa field has been fixed at 300,000 tons per annum. Meanwhile, lignite deposits more favourably located than the Kalewa are being investigated.

Not much attention has been paid in mainland China to lignite development in places where high-grade coals are abundant, such as those in North and Central China. Yunnan in Southwest China is reported to possess rich lignite reserves. The three principal occurrences in Yunnan province are the Kopaotsum, Puchaopa and Chaotung deposits, with reserves estimated respectively at 35,000,000, 120,000,000 tons and 100,000,000 tons. The Puchaopa deposit lies less than 50 m. below the surface and could be mined by open-cut methods, while the Chaotung seam lies only a few m. under the surface.

There is another large lignite deposit at Chalainor in north-eastern China, which has been repeatedly explored by Chinese, Japanese and Soviet geologists. The reserves are estimated at 444,000,000 tons. During the war, Japanese commercial interests developed several open-cut mines in this area for railway and domestic fuel.

Opposite is a well flowing under artesian pressure in the Neiveli pilot quarry. Below, a panoramic view of the main pumping test grid of the South Arcut lignite project at Neiveli

Assorted views of the pilot quarry at Neiveli. This quarry was started some years ago under American aid but is now no longer in use

Coals in Taiwan are almost exclusively of Tertiary age. There are three important coal-bearing series ; upper, middle and lower. The coal in the upper series has high moisture and ash, and low fixed carbon content. It is moderate in calorific value and approaches the rank of lignite. The other two series are well carbonised and are mainly high in volatile matter.

Geological survey work during the past decade has shown that much larger reserves of lignite occur in India than was previously believed. The Palana deposit has been under active exploitation and unprocessed lignite from this source is used in two powerhouses in Rajasthan. The high sulphur content, however, renders it unfit for locomotive fuel.

Important lignite deposits occur in the Neiveli area, South Arcot district, State of Madras. The field has been sufficiently

Far East

located to the extent of approximately 260 km^2, indicating probable reserves of 2,000,000,000 tons—one of the largest lignite deposits in the world. The Neiveli deposit is of considerable importance for the economic development of South India. Except for the Singareni coalfield, about 500 km. north of Hyderabad, Neiveli lignite is the only mineral fuel so far known to exist in South India.

In India's second five year plan high priority has therefore been given to the development of this deposit. The development programme envisages an output of 3,500,000 tons per annum of lignite, which will be used for power generation, the production of briquettes, and the production of 70,000 tons of fixed nitrogen in the form of urea.

The plan makes a provision of Rs. 520,000,000 for this project. Eventually it may be possible to smelt the large iron ore deposits at Salem by using the processed products of the lignite.

No estimate has been made of the total lignite reserves of Indonesia. In part of the Bukit Assam area (Sumatra), the amount of lignite has been estimated at about 2,000,000,000 tons. East Borneo as a whole is considered richer in lignite than Sumatra, and the total reserves will certainly amount to many thousand million tons.

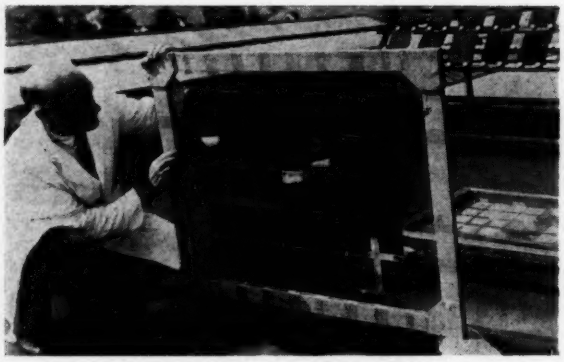
There is a total of six seams in the Bukit Assam area, of which two are being exploited by open-cast mining. The output of this mine is scheduled to be increased from about 800,000 tons/annum at present to about 2,000,000 tons annually under a plan of modernisation. A power plant of 10,000 kW and a small pilot carbonisation plant for low-temperature tests are under construction.

The Umbilin field in central Sumatra, which reached a maximum output of 780,000 tons in 1938, has little production at present. Ways and means for maximum utilisation of the coal are being investigated, with a view to possible rehabilitation of the mine, which is an underground one, up to its pre-war level.

In Borneo, there are lignite deposits both on the west and east coasts, the latter area being the more important.

In Malaya, coal approaching lignite in its properties occurs in Selangor (Batu Arang field), Perak (near Enggor), on the border of Perlis and Lower Thailand, and Johore. Mining at Batu Arang is still in progress, but the Enggor deposit was worked out by 1928. Deposits in other localities have proved unworkable. Production has declined continuously since the second world war, due largely to competition from fuel oil. Operations are at present concentrated almost wholly on open-cast working, which has been reorganised and re-equipped to provide for the reduced demand as cheaply as possible.

Tin—An Old Metal With a Bright Future



Opposite: Tin-nickel electroplate specimens exposed to condensation in racks on the roof of the laboratories at Greenford

Below: Two of the corrosion cabinets at the Institute

TWENTY-FIVE years ago, in the depth of the great depression of the early 1930s, the International Tin Research Council came into being as a result of joint action by producers in four countries for the purpose of increasing world tin consumption by research and development. The first meeting took place in January, 1932, and was followed later in the same year by the appointment of a Director of Research and a Director of Industrial Development. In November, 1932, the present director, Dr. E. S. Hedges, became their assistant and he has thus been associated with this international research organization throughout its life.

The Twenty-Fifth Anniversary

To celebrate its twenty-fifth anniversary the Tin Research Institute invited visitors to visit its laboratories on July 10 and 11 and meet the staff.

At the present time, the Council is composed of delegates representing the Belgian Congo, Bolivia, France, Indonesia, Malaya and Nigeria. Its headquarters and laboratories, known as the Tin Research Institute, are situated at Greenford, Middlesex, and were built in 1938. In addition, the Council controls organizations for technical development of tin in eight other countries in North America and Europe.

One of the organization's most essential objectives was to form a bridge between tin producers, who did not know the technical background of their customers, and tin consumers, who were suspicious of receiving free technical help. To-day, the organization is again pursuing its fundamental aim of increasing world consumption. Its methods of approach are broadly threefold: to discover entirely new uses for tin; to improve existing tin products or facilitate existing processes, so as to make tin more attractive, economically or technically, to the user; and to counteract, where possible, the introduction of substitutes.

A noteworthy demonstration of the first approach was the continuous casting of bronze rods on a machine specially developed at the Institute; the cast rod is of a supremely good quality and there is no wasted material.

Studies in corrosion form a big part of the Institute's work, because much of the world's tin is consumed as corrosion protecting coating for steel as tinplate.

Tinplate accounts for roughly 40 per cent of the annual tin consumption. The organization's first twenty-five years happened to coincide with the period in which the tinplate industry underwent a complete revolution, with the change from hot-pack rolled steel sheet to cold-reduced steel strip, and with the introduction of electrolytic tinning to replace hot-dipping. The part played by the Tin Research Institute has been in investigating the relations between tin and steel in the coating process, both by hot-dipping and by the electrolytic process, and by the provision of methods for testing quality. It is noteworthy that the greater economy in the use of tin made possible by the electrolytic process now appears to have been fully exploited, so that continued expansion of the tin plate industry will be accompanied by a corresponding increase in the demand for tin.

Electroplating studies at the Institute have led to the development of methods for laying down alloys of tin with

other metals as protective or decorative coatings. Among the pairs of metals which can be deposited as alloy in this way are tin-copper, tin-zinc, tin-cadmium, and tin-nickel. The tin-nickel electroplate (65 per cent tin - 35 per cent nickel) application should provide a growing outlet for tin in all parts of the world.

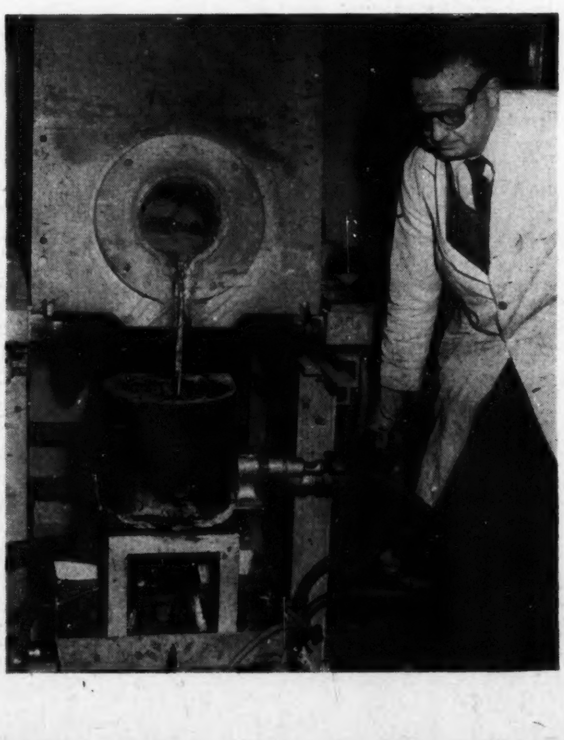
Another commercially successful electroplate developed by the Tin Research Institute is tin-zinc alloy, containing three parts of tin and one of zinc. Used mainly for protecting steel against rusting, in its electrochemical relation to the steel which it protects, the tin-zinc alloy resembles cadmium which it can often replace with economic advantage. Among its applications are tin-zinc plated pit props, which are made in the U.K. by two firms.

The greatest interest, however, has been shown in the newly announced "bright tin" plating, for by this method, coatings which have a brightly polished appearance can be applied to steel, copper, brass, etc. The new "bright tin" is, therefore, potentially an enormous labour-saving process. Moreover, coatings can be applied in truly remarkable thicknesses, if desired—a specimen demonstrated at Greenford had a coating 1/20th in. thick on either side. This process is beyond the initial pilot plant stage and will now be taken further by commercial firms.

I.C.I. are now marketing a titanium-aluminium-tin alloy containing 13 per cent tin, which has very good high temperature properties and is being used in the aircraft industry for turbine parts. This alloy is at present prepared by melting and casting techniques. Investigators at the Institute are seeking to prepare it by powder metallurgy. This method promises important advantages, notably reduction of the wastage during melting and casting which results from the extreme reactivity of molten titanium.

It is in the field of organotin compounds that one of the most promising directions for the expansion of tin usage seems to lie, and a specimen of a pit prop from a Cornish mine which had been treated with an organotin compound was seen at Greenford.

A machine, developed at the Institute, casts continuously bronze tubes and rods. Here the machine is producing rods of 1¼ in. dia.



REVIEW OF MINING TAXATION IN CANADA

MINING enterprises in Canada are subject to both Federal and Provincial taxation. Generally speaking, their liability under Federal tax legislation is similar to that of other enterprises carrying on business in Canada, but certain benefits are specifically provided.

The principal Federal tax legislation affecting the mining industry are the Income Tax Act, the Excise Tax Act, and the Customs Tariff.

The Government of Canada, by virtue of having territorial jurisdiction over the Yukon and Northwest Territories, also levies other taxes on mining, oil and gas companies operating in these areas.

The Income Tax Act

The Income Tax Act levies tax on both personal and corporate incomes. In the case of personal incomes the tax rate is on a graduated scale and varies in direct relation to the amount of taxable income. The corporation tax rate, in respect of income earned on and after January 1, 1955, is 18 per cent if the amount taxable does not exceed $20,000,000 and 45 per cent on the excess over $20,000,000.

An additional tax of 2 per cent is imposed under the provisions of the Old Age Security Act.

Where a province levies income taxes, a tax credit is provided in respect of the taxable income earned in the province.

Where a province levies a special tax on income derived from mining operations, a portion of the tax is allowable as a deduction in computing income.

Assets acquired for the purpose of producing income from a business are segregated into various classifications, depending on their nature. The rates for each class are stipulated for the purpose of determining the maximum annual deduction, computed on a diminishing balance basis, which may be used in computing income. For mining machinery and equipment acquired for the purpose of

gaining or producing income from a mine, the maximum rate applicable is 30 per cent. It rises to 100 per cent in the case of a mine shaft, main haulage way or similar underground work designed for continuing use (or any extension thereof), sunk or constructed after the mine came into production.

Capital cost allowance is not compulsory and any write-off, up to the maximum permitted for the particular class, may be taken in the year.

An allowance for depletion is permitted as a deduction in computing the income derived from the operation of a mine or oil or gas well. This deduction is intended to compensate for the exhaustion of the natural resources.

An operator of a metalliferous mine (except a gold mine), an oil or gas well, an industrial mineral mine operating a non-bedded deposit, or a sylvite (potash) mine may deduct 33⅓ per cent of the profits reasonably attributable to the production from such mine or well.

An operator of a mine producing gold is permitted, under certain circumstances, to deduct either $4 per oz. of gold produced in the year, or 40 per cent of the profits reasonably attributable to the production from the mine, whichever is the greater.

The deduction allowed in respect of a coal mine is 10 c. for each ton of coal mined in the year.

In all these cases the depletion allowance is continuous as long as production is secured, regardless of the cost of the properties involved.

Amortization

The cost of an industrial mineral mine occurring in a bedded deposit (other than sylvite) may be amortized over the productive life of the mine. The rate of amortization is determined by dividing the cost of the property, less residual value, by the total number of units of commercially-mineable material estimated to be contained therein. The allowance in respect of any fiscal period is then computed by applying this rate to the number of units mined during this period. Unlike the deduction permitted in respect of other mines, this allowance is limited to the cost of the asset and, on disposal of the property, is subject to recapture.

A corporation, in computing its income, is not required to include the profits derived from the operation of a mine for the period of 36 months commencing with the day on which the mine came into production in reasonable commercial quantities.

Bona fide prospectors and their employers or backers are exempt from tax on amounts received from the sale of all or any part of an interest in a mining property acquired as a result of the prospector's efforts.

Exploration, drilling and development expenses incurred in the search for petroleum, natural gas or minerals in Canada may be deducted in computing the income of corporations, whose principal business is mining, exploring for minerals, petroleum or natural gas, or the production, refining or marketing of petroleum products or natural gas. Exploration and development expenses do not include payments for a property or for prospecting and extraction rights, other than an annual payment not exceeding $1 per acre in respect of a right to drill for or take petroleum or natural gas.

Where an individual or corporation whose principal business is not mining or the production of oil or natural gas operates, in Canada, a coal mine or a mine operating on a non-bedded deposit, a deduction in computing income is allowed in respect of the prospecting, exploration and development costs incurred by the taxpayer in bringing the mine into production The amount of the write-off in any year is limited to 25 per cent of the aggregate of all such costs.

Shareholders resident in Canada, who receive a dividend from a corporation carrying on business in Canada, may deduct an allowance in respect of the dividend if 25 per cent or more of the corporation's income is derived from mineral profits. The rate of allowance varies from 10 to 20 per cent, dependent on the ratio of the mineral profits to the total income of the corporation paying the dividend.

A tax of 15 per cent is imposed and collected at the source on dividends paid to non-resident individuals or corporations other than parent corporations. A tax of 5 per cent is imposed on dividends paid to non-resident parent corporations other than those resident in the U.K.,

A tax of 15 per cent is imposed and collected at the source on all royalties paid to non-resident individuals or corporations in respect of the use of property in Canada.

Excise and Customs

The consumption or sales tax applies with certain specified exceptions to all goods produced or manufactured in Canada, or imported into Canada. The tax amounts to 10 per cent of the manufacturer's or producer's price or, in the case of imported goods, to 10 per cent of the duty-paid value. Among goods exempted from sales tax are mine cars (not including cars for handling men), drilling equipment, blasting powder, diesel-powered self-propelled trucks when used exclusively at mines or quarries, gold and silver in ingots, bars and unmanufactured sheets, and ores of all kinds.

All persons and corporations, including mining companies, are required to pay customs duties as imposed on goods imported into Canada. The rates are in general according to (1) British Preferential Tariff; (2) Most Favoured Nation Tariff; and (3) General Tariff. The U.S., which normally is Canada's largest source of imported goods, is in the second category.

Many articles of mining machinery and equipment enter Canada free from customs duty or at moderate tariff rates, the free entry in most cases being only for articles of a class or kind not made in Canada. In other cases free entry is restricted to the British Preferential Tariff.

Provincial Taxes

Under the Tax Rental Agreements of 1947 and 1952, most Provinces agreed to refrain from levying certain direct taxes for a period of five years in return for compensation from the Federal Government. The main purpose of these Agreements is to establish a more equitable system of taxation throughout Canada by reducing duplication of direct taxation and duplication of machinery for the collection of direct taxes, to give a greater measure of stability to the revenue of the Provinces, and to facilitate the carrying out of national policies intended to maintain high levels of employment and production.

The Agreements expressly permit the imposition by a Province of royalities and rentals on natural resources, as well as provincial taxation of income derived from mining operations. The Federal Government is obliged by the Agreements to allow such royalities, rentals and taxes to be deducted in the computation of income for Federal income tax purposes.

Agreements were signed by all Provinces, with the exception of Quebec, as well as the Yukon and Northwest Territories.

MINING MISCELLANY

A coal-purchasing mission from Japan, comprising four members, passed through Hong Kong recently on the way to Peking to negotiate with the trade authorities in Communist China for 560,000 tons of coal. This mission is the first of three groups which Japanese industrialists plan to send to Communist China. It will also negotiate for long-term imports of Chinese raw materials.

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Can-Erin Mining Corporation, of Toronto, whose subsidiary, the Emerald Isle Mining Co., Ltd., is operating copper mines at Allihies, County Cork, has announced that with the installation of machinery underground at the Mountain Mine, in West Cork, work will proceed more rapidly. It is anticipated that much high-grade ore will be found by the company in the lower workings, bearing in mind that mining must have been much more difficult for the former operators in the lower levels of the mine.

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Mr. Fred A. Seaton, Secretary of the Interior, U.S. Government, has announced that the ore potential resulting from 291 mineral exploration projects certified by the Department's Defence Minerals Exploration Administration is estimated to be worth $490,000,000, based upon December, 1956, prices. About $8,500,000 of Government funds have been disbursed on the successful projects through April 30, 1957. The result represents about $50,000,000 worth of new ore in the ground for each $1,000,000 of Federal funds invested in these projects.

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A five-year plan for the development of the Negev, providing for an expenditure of £.Israeli 400,000,000, has been announced in Jerusalem. The plan is largely based on exploitation of mineral resources and accords a high priority to phosphate mining. Estimates place the total reserves of phosphate rock in the Negev at some 200,000,000-300,000,000 tons. Under the plan the present output of 125,000 tons of rock annually is to be increased to 1,000,000 tons a year. The Dead Sea potash production at the Sodom plant is scheduled to be increased from the present monthly output of 7,000 tons to over 10,000 tons.

Her Majesty Queen Elizabeth the Queen Mother with Mr. J. Thomson, general manager, underground at Roan Antelope Copper Mines Ltd., Northern Rhodesia. Here on the 1,440-ft. level, Her Majesty, shown meeting European and African personnel, saw blasted rock being loaded into trucks by mechanical loader

Preliminary figures for May and June—the company's first two full months of production—indicate that operations at Faraday Uranium Mines, Ltd., are as good as or slightly better than anticipated. The mill is treating rather more than 1,000 tons of uranium ore per day with a recovery of appreciably more than 90 per cent. Estimated mine operating profit was $277,012 in May and $300,193 in June. The first shipment of uranium concentrates was dispatched from the company's mine in the Bancroft area, Ontario, on May 1, 1957. Continental Mining Exploration, Ltd., controls Faraday Uranium Mines and directs its operations.

PERSONAL

Mr. H. F. Oppenheimer has resigned the chairmanship of seven Free State mines in the Anglo-American Corporation Group, but remains on the boards. The companies are Free State Geduld Mines, President Brand Gold Mining Co., President Steyn Gold Mining Co., Western Holdings, Welkom Gold Mining Co., Jeannette Gold Mines, and Loraine Gold Mines. Mr. S. Spiro has been appointed chairman of the seven companies.

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Mr. G. S. Webster has been placed in charge of the Stoke-on-Trent sub-office of the English Electric Co., where he will be responsible for the sale of all products. He succeeds Mr. R. Edwards, who has left the company.

CONTRACTS AND TENDERS

The following future authorizations have been announced by the International Co-operation Administration (I.C.A.):

India

Forty cwts. cupro-nickel ingots not more than 5 lb. each, 20 per cent nickel and 80 per cent copper. Issuing authority, Director-General of Supplies, Shahjahan Road, New Delhi. Closing date, July 30, 1957. Ref. E.S.B. 17284/57. Telephone enquiries, Chancery 4411, extension 738 or 771.

South Africa

Hand-drawn aluminium conductor, item A, 30 miles of 7/.110 in. 0.04 sq. in. standard nominal copper equivalent, and item B, 7/.134 in. 0.06 sq. in. standard nominal copper equivalent. Issuing authority, the Buying Branch, Johannesburg. Closing date, July 29, 1957. Ref. E.S.B. 17388/57. Telephone enquiries, Chancery 4411, extension 738 or 771.

Taiwan (Formosa)

Rock-drill steel; steel wire; rock-drilling machinery, parts, supplies and equipment; drill rods and maintenance equipment; drill bits, carbide insert, with maintenance materials and supplies; hose couplings; parts for HD 15A tractors; oil furnace for use with rock-drill steel. Various specifications on all equipments. Issuing authority, Central Trust of China, Purchasing Department, Yen Ping Nan Road, Taipei, Taiwan (Formosa). Closing date, August 9, 1957. Ref. E.S.B. 16836/57. Telephone enquiries, Chancery 4411, extension 354.

Technical Briefs

Percolation for Treating Manganese Ores

A novel method of ore treatment—somewhat similar to making coffee in a percolator—has been used successfully by the U.S. Bureau of Mines to recover manganese from certain low-grade ores of Arizona and Nevada.

Known technically as "percolation leaching", the process recovered from 78 to 97 per cent of the manganese from ores which could not be handled by conventional gravity concentration or flotation because of their clay-like characteristics. A hard manganese ore also was tested and responded favourably to the process.

The method consists of forming crushed ore into piles, passing sulphur dioxide gas upwards through them, followed by percolating water or a solution (calcium dithionate) downwards through the piles. The alternate upward and downward percolation cycle continues for three to five days, depending upon the characteristics of the ore treated.

In the process, the sulphur dioxide gas dissolves the manganese, which then is captured as manganese sulphate by the percolation water or solution. This sulphate can be treated to yield a product suitable for making ferro-manganese, which imparts toughness to steel.

An illustrated technical report just released by the Bureau indicates that the percolation method can be employed on ore piled in heaps or in vats. A similar procedure has proved successful in treating submarginal copper ores.

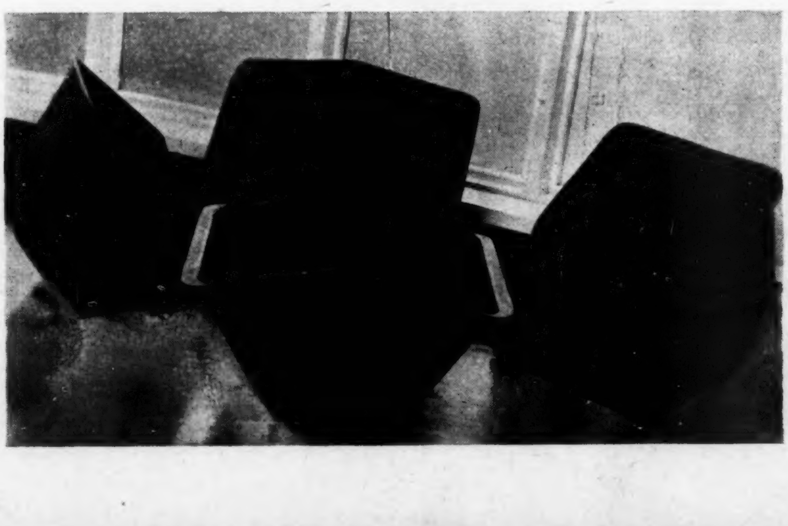
PLASTICS IN MATERIALS HANDLING

Universal Metal Products Ltd. are now manufacturing black granite feed buckets for chain elevators from glass-reinforced plastic material. These buckets, which have possible applications in certain sections of the mining industry, are currently being used by the North Western Gas Board for carrying spent iron oxide on overhead conveyor systems. Other uses for the buckets are in the conveyance of chemicals, earth and various solid fuels.

The buckets measure 14 in. by 19 in. including the flange at the top, narrowing to 7 in. by 12 in. approximately at the base with 1 in. flanges on the short and ½ in. flanges on the longer sides. They are 10 in. deep.

The use of the glass-plastic material ensures that the buckets have great tensile strength combined with light weight. They will not corrode, are resistant to weak acids and alkalis, and are relatively unaffected by humid atmospheres.

Black gravity feed buckets for chain elevators, manufactured from glass-reinforced plastics



NICKEL IN THE OIL INDUSTRY

Over 1,000,000 lb. of Inco nickel in alloy form has been used in the construction of Tidewater Oil Co.'s "Refinery of the Future", which is located near Delaware City, 15 miles south of Wilmington, Del. Its initial capacity of 130,000 barrels a day is the largest of any oil refinery yet built.

To resist corrosion by chlorides contained in the crude oil at temperatures under 500 deg. F., engineers specified Monel nickel-copper alloy for fractionating trays, bubble caps and piping, and for lining crude distillation columns. Monel linings were also used in the lower half of the desulphurizing flash drums and product separators.

Inconel nickel-chromium alloy was employed for the shell (in the form of alloy-clad steel plate), as well as for trays and bubble caps of the petrol stabilizer to resist corrosion by chlorides and sulphur-containing products at temperatures above 500 deg. F.

Incoloy iron-nickel-chromium alloy was specified for the piping system in the hydrogen plant to resist hydrogen attack and maintain high strength at metal temperatures up to 1,800 deg. F.

Cupro-nickel tubing of the 70-30 composition was specified throughout the plant in the cooling system, where brackish water is used.

Chromium-nickel stainless steel (Type 316) was widely used in the plant to resist organic acids and sulphur corrosion at temperatures above 500 deg. F.

In the production of hydrogen for the desulphurization of naphtha feed stocks for the catalytic reformer, a nickel catalyst was used.

BRITISH GEON AT OLYMPIA

Of considerable interest to mining men visiting the British Plastics Exhibition at Olympia was an hydraulic pit-prop with oil seals in "Hycar" oil-resistant synthetic rubber. This notable exhibit was shown by British Geon, Ltd., in their section of a stand occupied jointly by the three Distillers' Plastics companies. British Geon will shortly be manufacturing a range of "Hycar" oil-resistant synthetic rubbers. They expect to be in production of latices by August this year and of solid rubbers by October.

Also of mining interest was a model in rigid Geon P.V.C. of a closed circuit system pumping an abrasive slurry to demonstrate the high abrasion resistance of this plastic. Elsewhere on the same stand it was demonstrated that a tube fabricated in rigid Geon P.V.C. can withstand temperatures of up to 60 deg. C. (140 deg. F.). Above this temperature it is advisable to support the tube at intervals. The lightness of this material was demonstrated by weighing a metal pipe and a pipe fabricated in rigid Geon P.V.C., each being of the same dimensions. The plastic pipe weighed only 2½ lb. against 13 lb. for the metal pipe.

P.V.C. conveyor belting was again a conspicuous feature of the British Geon display. The N.C.B. now specifies a limit for anti-static build-up, and the majority of manufacturers have succeeded in meeting this requirement by suitable compounding. P.V.C. coated brattice cloth was also shown; its advantages are claimed to include improved abrasion and flame resistance.

British Resin Products, another member of the Distillers' Plastics group, manufactures a wide range of synthetic resins and plastics materials, which offer a choice of many properties. From a mining standpoint, one of the most interesting exhibits in this company's section was a tank in which components bonded with a cold-setting phenolic adhesive had been immersed for several months without deterioration of the joints. Among the items displayed was a joint bonded with Cellobond J 2664, which had been at the bottom of Penarth Pier for eight months. This adhesive has excellent resistance not only to water but also to weather and corrosive atmospheres.

The third member of the group, Distrene, Ltd., was represented by a display showing the wide range of uses of injection-moulded and vacuum-formed Styron polystyrene. The large number of exhibits served to illustrate the versatility and excellent moulding qualities of the materials.

Metals and Minerals

Boron Fuels Are Now Being Commercially Produced

Last week we referred to the growing demand for boron in industry and cited the use of this element as a fuel in high-speed aircraft as one of the most significant developments in this connection.

Coincident with the publication of our note came the news that Olin Mathieson Chemical Corp. had become the first company in the U.S. to produce high-energy fuels on a semi-commercial basis. A fuel containing boron and hydrogen is now being shipped to the U.S. Air Force. It is understood that the same firm is also interested in lithium content fuels.

An interim facility, scheduled for completion at the end of this year, will turn out three times the amount of fuel now being produced in the semi-commercial plant. A plant sponsored by the Air Force is expected to start production within the next 20 months and will increase output by many times the current volume. This plant is the result of an Air Force contract awarded to Olin Mathieson for the construction of a $36,000,000 facility.

High-energy chemical fuel (above 25,000 B.T.U. per lb.) greatly increases the range of aircraft and missiles and also minimises engine failure problems at high altitudes. After five years of research and two years of production testing, two fuels known as HEF-2 and HEF-3 had been made by Olin Mathieson in small laboratory pilot units as far back as 1952. Production has now been started in a plant built solely by the company at a cost of $5,000,000. Larger quantity output is expected to result in more economies. Production of high-energy fuels will by no means be confined to Olin Mathieson.

HEF-2 and HEF-3 are expected to be the forerunners of a $1,000,000,000 industry in the next ten years. This forecast is based on the tremendous quantities of fuel needed for military aircraft and later for long-range civilian flights. Within the next 20 years, capacity of the Olin-Mathieson plant is expected to increase 100 times. It is further predicted that large-scale production prices will be moderate and will permit extensive use of the fuel, which is completely safe to handle.

Air-breathing engines using the most advanced high-energy fuels have their range increased by 40 per cent. In cases where range is not the consideration, then less fuel for a given distance allows a greater payload, or—with a conventional payload—greater speed. Pentaborane, for example, gives increases up to 50 per cent. Possibly a bomber can now fly around the world without refuelling.

As reported last week, borax producers are engaged on very large expansion programmes. The U.S. Borax and Chemical Corporation, which is 50 per cent owned by Borax (Holdings), Ltd., of the U.K., owns about 70 per cent of the known U.S. high-grade reserves, while the U.S. accounts for about 90 per cent of the total world output. In the U.K. itself Borax Consolidated, Ltd., is interested in the large-scale development of boron compounds—such as diborane and pentaborane—as high-energy fuels, and is also investigating the possibilities of lithium.

The U.S. Geological Survey recently announced that three deep test holes were scheduled to be drilled at the Four Corners east of Boron in California. The objective of this investigation, which has been in progress since August, 1952, is to pinpoint all surface or underground deposits yielding boron or any of its compounds, or to indicate formations in which they might be located.

THE PLATINUM GROUP

Preliminary figures issued by the Bureau of Mines, U.S. Department of the Interior, indicate that total sales of platinum group metals to domestic consumers increased by 3 per cent in 1956. Sales of platinum itself, however, were down by 5 per cent, while sales of iridium, osmium, rhodium, and ruthenium together declined by 11 per cent. These losses were offset by palladium sales, which gained 16 per cent.

Total U.S. imports of platinum metals increased 2 per cent in 1956, with higher palladium imports accounting for the greater part of the rise.

Sales of platinum to domestic users by refiners and dealers were 110,664 oz. for the fourth quarter of 1956, indicating total sales of 117,000 oz. against 107,000 oz. in the third quarter.

The market in New York remains little changed, with offerings ranging from $88 to $95 per oz. Demand has been seasonally satisfactory, led by the petroleum industry.

In London, prices in the free market have recently been little changed. Dealers indicate a range of £30 15s. to £31 5s. per troy oz. Trading interest remains at an extremely low ebb and prices are regarded as largely nominal.

The price of palladium has also remained unsettled, and supplies of this metal are reported to be more than adequate. Leading suppliers in the U.K. currently quote a range of from £7 10s. to £8 per troy oz., but on the Continent the price is reported to be about £6 10s.

In connection with the fact that platinum group metals, as from August 1, will be placed on world open general licence, some trade quarters believe that metal of Soviet Union origin, which is imported into the U.K., need not be re-exported as at present.

The long-term outlook for the platinum group remains excellent. While the use of platinum for ornamental purposes has doubled in the U.S. during the past 20 years, industrial demand has quadrupled. There is hardly a field, from atomics to guided missiles, in which platinum is not of critical importance. The oil industry is now the largest single consumer of this metal, which it uses as a catalyst for the production of high octane petrol. Platinum is also an important tool of the rapidly expanding chemical industry and in the manufacture of optical glass and glass fibre. The steel industry is the third largest consumer, while electrical manufacture is another important outlet.

There is little doubt that the supply position will remain tight for a considerable time, despite the big rise in output planned by the South African producer, Rustenburg Platinum Mines, Ltd., which will soon account for about 70 per cent of the free world supply. Replacement requirements in oil refineries alone are expected to exceed 200,000 oz. annually in the near future, and increasing quantities of platinum will also be needed for the manufacture of hydrogen peroxide for use in high-energy fuels.

ALUMINIUM PRICES

Quaker State Metals Co., of Lancaster, Pa., a prominent U.S. fabricator of aluminium, has expressed strong opposition to the price increases in the aluminium industry, which are expected to result from the wage increases scheduled for August 1 under three-year labour contracts signed last year.

Citing as an example the recent drop in the sale of aluminium for construction due to tapering off of the post-war housing boom, an executive of this company said that the price burden must be removed from the "middleman's" shoulders, if he was to remain in competition with the sellers of other metals and increase his own sales. Pointing out that, in thousands of applications for both consumer and industrial products, aluminium was only beginning to justify its use as a basic and necessary metal, the speaker warned the industry that, if the price continued to rise, aluminium might price itself right out of the opportunity to go on expanding. He urged that the tens of thousands of aluminium fabricators should join in urging primary producers in the U.S and Canada to abstain from following the example of the unfortunate steel situation.

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Talks have been resumed in Canada with a view to settling the strike of 6,500 workers in Alcan's Arvida plants, which has been in progress for some two months.

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A delegation from Yugoslavia left recently for Moscow in an attempt to persuade the Soviet Union to proceed with a $175,000,000 investment in Yugoslav aluminium production. The Soviet Government, which had agreed to the project last year, postponed it again in February, 1957. Under the original plan, Soviet and East German aid was to help Yugoslavia develop aluminium resources in Montenegro for an eventual output of 100,000 tons a year. In February, the Soviet Union asked for postponement of the project till 1960, pleading its own economic difficulties.

COPPER · TIN · LEAD · ZINC

(From Our London Metal Exchange Correspondent)

Markets this week have been thoroughly in the grip of the holiday season with price movements unimportant and turnovers down. In general, it can be said that industrial demand is well up to average for the time of year but all metals—with the possible exception of lead—are suffering from an overweight of selling pressure.

REACTIONS TO COPPER'S FALL

Although copper stocks in official L.M.E. warehouses did not increase this week, the contango is gradually increasing and the resulting pressure on the present cash quotation has given the market an unsteady appearance. Nothing more has been heard from Chile about a reduction in output, but on the contrary a spokesman has said that this is very improbable as output for the year is unlikely to exceed 440,000 tonnes, all of which are sold. It is felt that the word "placed" is more accurate than "sold" as in fact most contracts are based on average prices.

In Canada the lower copper price has caused the Union of Mine, Mill and Smelter workers to petition the government for a floor price, with corresponding stockpiling where necessary, whilst in Rhodesia the European Mine Workers' Union have made a request for higher basic pay in view of the diminution in the size of the copper bonus. In America the market has remained steady, the weaker undertone being reflected only in a reduction of the scrap price to 22½ c. against its previous level of 22¾ c.

During the week the Copper Institute issued its figures for June and these show that while the production of crude copper remained practically unchanged, that of refined copper fell from 151,045 s.tons to 134,270 s.tons. Domestic deliveries, however, were very unsatisfactory, being approximately 20,000 tons lower at 101,993 s.tons. This led to a rise in the stocks of refined copper held of about 10,000 tons to 165,549.

Outside the States, the picture was very similar, with production of refined copper down by about 7,000 tons at 117,531 s.tons; deliveries down 18,000 tons to 118,059 tons and stocks up 13,000 tons at 234,745 tons.

TIN WEAK

The tin market has been the weakest during the period under review in spite of fairly good consumer off-take and this can be attributed to the greater availability of metal from the British smelter which has also resulted in stocks in official warehouses rising 353 tons to 2,773 tons. General opinion is that the fall in the market has been caused by lack of action on the part of the Buffer Stock Manager. In May, consumption of tin was 2,240 tons against 1,752 in April but end of month stocks amounted to 4,043 tons against 3,281 tons. On Thursday morning the Eastern price was equivalent to £762¾ per ton c.i.f. Europe.

LEAD-ZINC PICTURE UNIMPROVED

The low prices for lead and zinc are having repercussions in a number of producing countries, the latest of these being the convening of a conference in Bolivia to discuss steps to combat the lower income from exports and the suspension by Peru of the 4 per cent export duties on lead and zinc so long as the prices remain below 15 c. per lb. and 12 c. per lb. respectively. The Belgian metal strike is settled, as also that at the Monterey Plant in Mexico and at the moment the statistical position is not being helped by any strikes at the production end. In addition to previous announcements of cutbacks in production, the New Jersey Zinc Co. now announce a cutback of about 2,500 s.tons per month of refined zincs.

A further direction in which the U.S. market may look for some improvement may be seen in this week's statement by Mr. Walter C. Berger, Administrator of the Department of Agriculture's Commodity Stabilization Office, to the effect that his department now doubted the need for the materials which were being acquired through barter. These, as he pointed out, were principally large tonnages of lead and zinc and, if as Mr. Berger forecast barter deals are likely to decline by from 15 to 25 per cent, this may well lead to a reduction in the U.S. imports of these metals.

The effect of the strike cessations on the L.M.E. has been weakening of both metals with rapid contraction in the recently established backwardation in zinc owing to expectations of renewed shipments from the Continent. The maintained industrial offtake in the U.K. is shown by the figures issued for May which illustrate deliveries of lead at a total of 31,547 tons against 27,246 tons in April, with nearly all the main trades recording increases. Stocks showed a corresponding decrease at the end of the month at 40,804 tons.

In zinc, the offtake in May was some 5,000 tons higher than in April at 29,589 but increased imports and production resulted in stocks only diminishing 1,500 tons to 36,000 tons.

Closing prices and turnovers:

THE WEEK ON THE L.M.E.

	July 11 Buyers	July 11 Sellers	July 18 Buyers	July 18 Sellers
Copper				
Cash	£216¾	£217	£215	£215¼
Three months..	£219	£219¼	£217¼	£217½
Settlement ..	£217		£215¼	
Week's turnover	3,550 tons		7,175 tons	
Lead				
Current ½ month	£90¾	£91	£89¼	£89½
Three months ..	£91	£91¼	£90	£90¼
Week's turnover	5,275 tons		3,400 tons	
Tin				
Cash	£753	£754	£746	£747
Three months ..	£751	£752	£744	£745
Settlement ..	£754		£747	
Week's turnover	845 tons		830 tons	
Zinc				
Current ½ month	£76	£76¼	£73	£73¼
Three months ..	£73¾	£74¼	£72¼	£72½
Week's turnover	7,000 tons		6,225 tons	

LONDON METAL AND ORE PRICES, JULY 18, 1957

METAL PRICES

Aluminium, 99.5%, £197 per ton
Antimony —
English (99%) delivered, 10 cwt. and over £210 per ton
Crude (70%) £200 per ton
Ore (60%) bases 23s. 6d./24s. 6d. nom. per unit, c.i.f.

Arsenic, £400 per ton
Bismuth (min. 1 ton lots) 16s. lb. nom.
Cadmium 12s. 0d. lb.
Cerium (99% nett), £13 18s. lb. delivered U.K.
Chromium, Cr. 99% 7s. 2d. lb.
Cobalt, 16s.-19s. lb.
Germanium, 99.99%, Ge. kilo lots 3s. 4d. per gram
Gold, 251s. 2d.
Iridium, £27/29 oz. nom.
Lanthanum (98/99%) 15s. per gram
Manganese Metal (96%-98%) £310
Magnesium, 2s. 5½d. lb.
Nickel, 99.5% (home trade) £600 per ton
Osmium, £20/22 oz. nom.
Osmiridium, nom.
Palladium, £7 10s./£8 0s. oz.
Platinum U.K. and Empire Refined £34 oz.
Imported £30 15s./£31 5s. nom.
Quicksilver, £90 ex-warehouse
Rhodium, £42 oz.
Ruthenium, £15/£17 oz. nom.
Selenium, 75s. nom. per lb.
Silver, 78⅛d. f. oz. spot and 78d. f'd.
Tellurium, 15s. 16s. lb.

ORES AND OXIDES

Bismuth	65% 8s. 6d. lb. c.i.f.
	20% 3s. 3d. lb. c.i.f.
Chrome Ore—	
Rhodesian Metallurgical (semifriable) 48%	£19 5s. 0d. per ton c.i.f.
„ Hard Lumpy (45%)	£19 5s. 0d. per ton c.i.f.
„ Refractory 40%	£13 0s. 0d. per ton c.i.f.
„ Smalls 44%	£18 0s. 0d. per ton c.i.f.
Baluchistan 48%	£12 0s. 0d. per ton f.o.b.
Columbite, 65% combined oxides, high grade	185s./197s. 6d. per unit
Fluorspar—	
Acid Grade, Flotated Material	£22 13s. 3d. per ton ex. works
Metallurgical (75/80% CaF_2)	156s. 0d. ex works
Lithium Ore—	
Petalite min. 3½% Li_2O	47s. 6d./52s. 6d per unit f.o.b. Beira
Lepidolite min. 3½% Li_2O	47s. 6d./52s. 6d per unit f.o.b. Beira
Amblygonite basis 7% Li_2O	£26 5s. per ton f.o.b. Beira
Magnesite, ground calcined	£28 0s./£30 0s. d/d
Magnesite Raw (ground)	£21 0s./£22 0s. d/d
Molybdenite (85% basis)	8s. 5d. nom. per lb. (f.o.b.)
Titanium Ore—	
Rutile 95/97% TiO_2 (prompt delivery)	£55/£57 per ton c.i.f. Aust'n
Ilmenite 52/54% TiO_2	£11 10s. per ton c.i.f. Malayan
Wolfram and Scheelite (65%)	115s./120s. per unit c.i.f.
Manganese Ore Indian	
Europe (46%-48%) basis 130s. freight plus 5% surcharge	131d./133d. per unit c.i.f.
Manganese Ore (43%-45%)	106d./108d. per unit c.i.f.
Manganese Ore (38%-40%)	100d./102d. per unit (including duty)
Vanadium—	
Fused oxide 90-95% V_2O_5	£12½-£13½ per unit c.i.f.
Zircon Sand (Australian) (65-66% ZrO_2)	£19 per ton c.i.f.

Mining Finance

Afrikander Proprietary's Coalfields

Further information has come to hand concerning the Wakkerstroom district in the Transvaal where Afrikander Proprietary Gold Mines (see these columns July 5) have acquired options over 10,000 acres.

This block of ground is sited approximately four miles from the railhead at Wakkerstroom from which point the Union Government has elected to connect with the railhead at Paulpietersburg in Natal. The ground under option to Afrikander Proprietary has been investigated by boreholes and by addits in the coal seams outcropping in this area, and the five major coal seams occurring in this district have been correlated with the major coal seams occurring in the Natal area.

No difficulties concerning a truck allocation is anticipated as a coal industry is an entirely new departure for the district. Native labour supplies—potentially at any rate—are good in view of the coalfield being within 50 miles of large native reserves and the Protectorate of Swaziland.

The coalfields of this area have been fully described in memoirs published by the Geological Section of the Department of Mines of the Union of South Africa, in whose opinion the coalfields in the whole district constitute one of the greatest known reserves of coal in South Africa. Added importance and interest in this area has also been given by the fact that Iscor has taken options over ground in the area as a result of the drilling programme.

The company's options run for three years from September 1 next, giving ample time for investigating and improving the area. Initially, a sum of £30,000 is being made available for this.

Although it is early days yet to assess the value of these options to Afrikander Proprietary, interest in the project is enhanced in view of the increasing carrying capacity of the railways and prospects for the easing of the transport bottleneck. Moreover, the recent declaration by the South African Government that there was no policy objection to the unlimited export of coal in the years immediately ahead provides an added incentive for developing the area.

JOHNNIES' HIGHER DIVIDEND

Johannesburg Consolidated Investment is paying 5s. per £1 share for the year ended June 30, 1957. This 25 per cent distribution compares with 17½ per cent or 3s. 6d. a year ago. The market liked it and Johnnies have been a good market this week. Yet the present market price of around 52s. 6d. is at least £1 below the company's net asset value. This is bound to be appreciated in the market sooner rather than later. Accordingly the current yield of approximately 10 per cent on the increased distribution should soon be whittled down.

Before tax, gross earnings, subject to audit, totalled £2,469,266 against £2,292,643 at the end of June, 1956. Tax liabilities took £870,852 against a mere £104,762 in the preceding year, when U.K. income tax was wholly offset by double tax relief. Thus net profits came out at £1,595,414 against £2,187,181. The increased dividend distribution cost £757,083 against £529,958, leaving the carry-forward marginally weaker at £297,550 compared with £298,840 brought in.

The feature of the balance-sheet figures was the rise in the market value of quoted investments, which appreciated to £20,076,977 compared with £18,931,802. Book values advanced to £11,930,625 from £11,069,958.

CENTRAL MINING'S HIGHER PROFITS

Emphasizing that its results are those relating to normal trading and not affected by the recent reorganization of its affairs following the realization of its Trinidad Oil investment, the preliminary profit figures of Central Mining and Investment Corporation for the 15 months ended March 31, 1957, showed that group profit, before tax, advanced sharply to £1,645,397 against £846,480 in the preceding 12 months. The Corporation is recommending a final dividend of 1s. per £1 share making a total of 23¾ per cent for the 15 months to March 31 last, compared with 2s. 9d. or 13¾ per cent for the previous 12 months' period. This, together with the payments on the preference shares, absorbed £582,187 from the net earnings of £1,093,311 which were virtually double the net figure achieved in 1955 of £595,494.

ASHANTI'S 25 PER CENT INTERIM

Ashanti Goldfields Corporation has raised its interim payment from 15 per cent to 25 per cent for the year ended September 30, 1957. This payment fulfilled the most optimistic expectations and the shares went ahead sharply.

BIBIANI RESUMES PAYMENTS

Bibiani (1927), after passing the dividend for 1955-56 due to the African labour strike that year, resumed payments with an interim of 5 per cent, the same as was paid in respect of 1954-55. Bibiani's payment was unexpected and the shares advanced to their highest level this year.

LONDON MARKET HIGHLIGHTS

Kaffirs were an uninspiring market during the week ended July 17. Hopes of better-than-average results from the June quarterly reports have not been fulfilled by those already published. Rumours circulating in advance of the Free State Geduld quarterly were that progress would again be solid rather than spectacular and in the event this was confirmed. Accordingly, F.S.G. eased several shillings to 73s. 9d. and other counters in the O.F.S. Group dropped in sympathy. Yet, steady support from the Cape lifted Stilfontein to 31s. 6d., a three-year peak, on expectations of a good quarterly. Much the same comment applies to Harties and Buffles.

Johnnies, Central Mining, and Gold Fields have been prominent in a generally good finance section. The size of the dividend increase by Johnnies surprised the market and the shares improved to 52s. 9d. before going ex-dividend. The rise in Central Mining to 59s. 4½d. stemmed from the all-round improvement in the figures for the 15 months to March 31 last. The impact on the market was enhanced by virtue of the fact that the profits were not affected by the recent reorganization of the Corporation's affairs following the sale of its Trinidad Oil investment. Gold Fields nil paid units were a lively market for most of the week, but activity abated somewhat following their split into 10s. paid shares and £25 paid loan stock. The quotations on Wednesday of 17s. and £23½ respectively suggested switching from the shares into the loan stock.

The weak statistical position of copper accentuated by the denial of any cut-backs in production from the U.S.-owned copper companies in Chile subdued copper shares, although the wage claims by European Copperbelt miners, coupled with the strong belief in the longer term outlook for the metal, prevented any marked fall in share prices. Confidence in the outlook was displayed strongly in the steadiness of Rhodesian Selection Trust, which have been little affected by the high capital cost of the expansion programme at Mufulira.

Lead-zincs have been dull, but New Broken Hill recorded a 5s. rise on Wednesday following the good preliminary profit figures.

Tins were quiet but firm, with Ayer Hitam maintaining its price at 28s. 9d., the high point for the year.

Platinums remained firm on near and long-term considerations as, at the moment, the free market price of the metal on both sides of the Atlantic has dipped below the controlled quotation. In diamonds, "Amits" notched up another 5s. or more to 190s. 7½d. on persistent U.S. demand.

Ashanti have been a lively focal point of interest on the raising of the dividend, which fulfilled the most optimistic expectation, and the shares closed the week at 24s. 1½d., their highest for a long time.

Financial News and Results

Glacier Turns on the Heat.—Glacier Mining Ltd. of Toronto have issued a special progress report stating that the company has made a direct entry into the field of oil and natural gas exploration. The company has acquired a little over 2,000,000 acres in the Peel Plateau-MacKenzie River area, including a broad zone of favourable structure. The president, Mr. E. S. Clarry, says that the acreage "looks most interesting as an oil and gas exploration area".

Beatrica Inbeata.—Beatrice Gold Mining made a loss in the year to March 31, 1957, of £44,083 against £8,109 in 1956. It appears from the report and accounts that the increased loss was largely due to a net diminution in value of the company's investments by £50,884 (1956—£12,317). No less than £35,000 of this was attributable to the fall in price of the shares of Union Tin Mines Ltd. The company continues to have interests in both the Kinross and Klerksdorp areas of the Transvaal. The meeting will be held in Johannesburg on August 7. Mr. H. A. MacKay is chairman.

South Bukeru Areas.—As previously reported, South Bukeru Areas lost £1,452 on mining account up to the date of cessation of operations and £199 in the full year 1956. The balance sheet shows net current assets of £16,103, and the market value of the company's quoted investments was £23,413. In his circulated statement, the chairman, Mr. M. W. Parish, says that the Board are still actively looking out for means of broadening the basis of the company's operations. The meeting will be held in London on August 7.

Exploration Company's Rights Issue.—The Exploration Co. Ltd. are to make a rights issue of one 1s. share at par for every 6s. of stock held. The purpose of the issue, says Mr. M. W. Parish, the chairman, is to enable the company to expand and increase its investments and to be in a position to follow up its existing investments and "for general purposes". The company's report and accounts for 1956 show a net profit of £26,070 (before transferring £25,000 to contingencies and investment reserve) against £69,424 in 1956 (before writing off £123,034 from goodwill). The meeting will be held in London on August 7.

EAST RAND CONSOLIDATED

The thirty-first annual general meeting of East Rand Consolidated, Ltd., was held on July 18 at the Chartered Insurance Institute, London, E.C.

Mr. C. J. Burns, Chairman, presided.

The following is an extract from the Chairman's Statement circulated with the Report and Accounts for the year ended December 31, 1956:

Members will have noted from the Directors' Report that the payment of a dividend of 6¼ per cent for the year ended December 31, 1956, has been recommended.

The Revenue for the year at £71,392 again showed an increase, as did the net profit, before appropriations, at £58,237.

It is our intention to increase our stake in Industry, both by share purchase through the Stock Exchanges and by negotiation direct with the holders of the equity of any Company where conditions permit.

In the meantime, our South African office will continue to supervise the Company's mining interests, with a special reference to participations, in conjunction with others, in base metal propositions.

As regards progress during the current year, profits to date compare favourably with those now presented, and propositions for expanding the Company's activities on the lines indicated are currently being examined.

The report and accounts were adopted.

BRITISH GUIANA CONSOLIDATED GOLDFIELDS

REASONS FOR LOSS

The 21st annual general meeting of British Guiana Consolidated Goldfields, Ltd., was held on July 15 in London.

Sir Roland Robinson, M.P., Chairman, in the course of his speech, said:

The company made an operating loss in 1956 of £5,345 as compared with an operating profit the previous year of £65,067. The main reason for this change of fortune is the drop of £80,000 in the proceeds of bullion won, mainly due to the fact that we obtained 5,587 fewer fine ounces. We suffered a slight reduction of 1% in the yardage dredged, due to the loss of two weeks' dredging time during moving the dredge down river to a new site, but the main reason for this drop in output was that the ground dredged only yielded 3.57 grains per cubic yard against 4.6 grains in 1955. A reduction in the charge for depreciation and amortization of £15,000 was partly offset by the rise in costs in British Guiana of £5,000 so that the drop in production of £80,000 combined with these other factors resulted in a swing from a £65,000 profit to a £5,000 loss.

In addition to the loss on the dredging operations of £5,345, the company has had to carry the burden of interest on unremunerative capital and the cost of testing for further payable ore reserves, which together have added £37,800 to the trading loss, making a total of over £43,000.

Rise of Costs

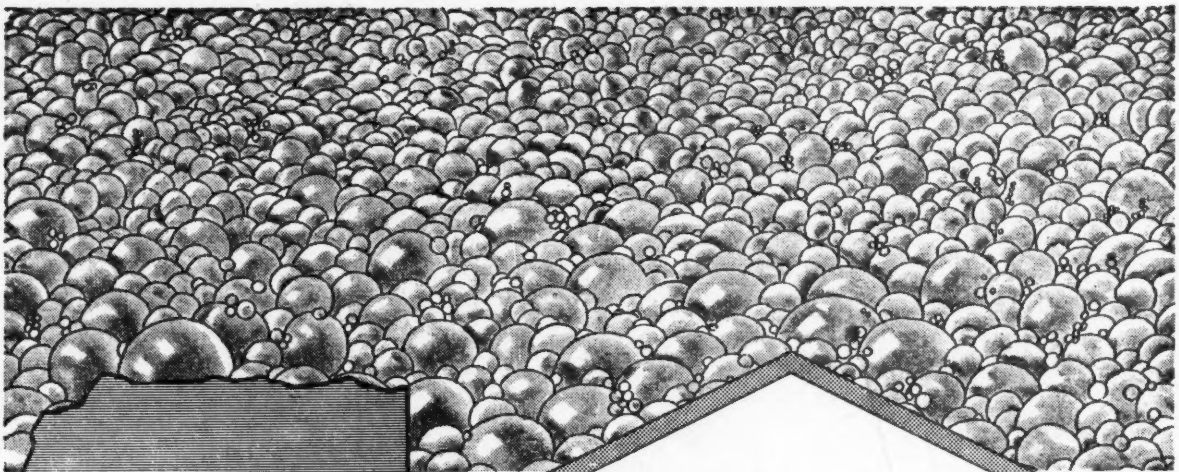
Unfortunately, during the year under review we were still only carrying on operations with one dredge, which consequently has to bear all the overheads against its production. In general, costs in the Colony, as elsewhere, have tended to rise, particularly in such items as diesel oil, and as a result there was an increase compared with the previous year, of 2½d. per cubic yard in the costs in British Guiana.

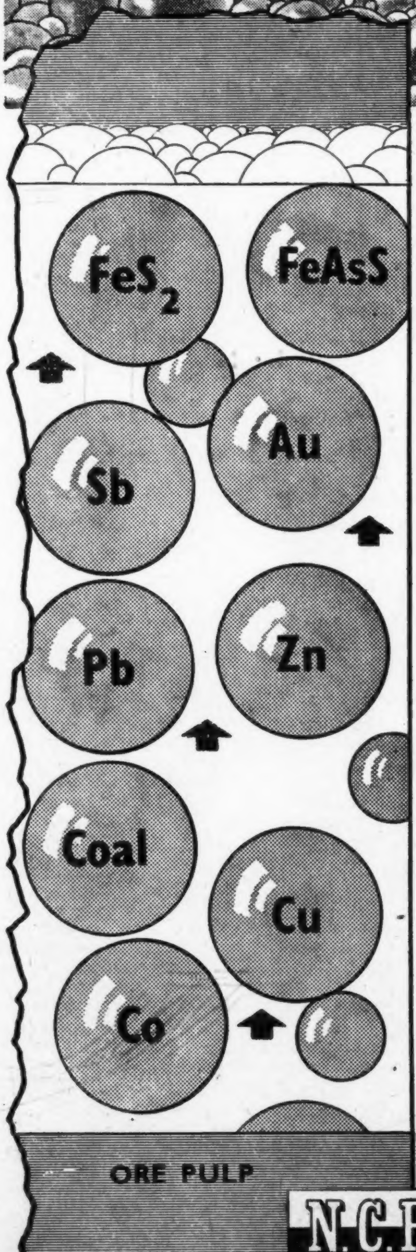
Potaro Hydro-Electric Company

I am glad to say that 1956 will be the last full year in which we will have to rely on diesel oil supplies and prices, as although the Atlas engine installation which uses diesel oil will continue to be our power standby, we are now, I am glad to be able to report, in a position to obtain hydro-electric power from our subsidiary company Potaro Hydro-electric Co. Ltd., which came into commercial production on June 18.

As a result of the losses enumerated above, and the expenditure incurred during the year on the Konawaruk dredge, our current liquid resources have been greatly weakened. We have had recourse to borrowing on temporary overdraft from the Royal Bank of Canada, and to arranging for some modification of the terms of repayment on moneys advanced by the Colonial Development Corporation, whereby they postpone repayment of certain instalments of their debentures and relend us moneys which we had repaid to them.

The report was adopted and the arrangement with the Colonial Development Company approved.

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Coal
Cu
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ORE PULP

TRONOH MINES

MR. J. H. RICH'S STATEMENT

The Fifty-fifth Annual General Meeting of Tronoh Mines, Ltd., was held on July 11 in London.

Mr. J. H. Rich, the chairman, presided.

The following is an extract from his circulated statement:

The working profit for the year ended December 31, 1956, is £836,867. Dividends totalling 1s. 10½d. per share, less tax, have been paid in respect of the year, and the directors recommend a final dividend of 6d. per share, less tax, leaving £318,711 to be carried forward.

It seems reasonably clear that this Company will qualify for taxation reliefs being given to the new category of Overseas Trade Corporations, and that some reduction in the charge for United Kingdom taxation can be expected in the future.

Siamese Interests

As to Tin Lay, Ltd., our wholly owned subsidiary, the dredge has been laid up for an appreciable time in the current year for an extensive overhaul and the fitting of a stripping chute, which it is anticipated will materially increase its capacity.

As regards Aokam Tin, Ltd., which has been financed by the Tronoh-Malayan Tin Group in conjunction with the Siamese Government, the position is that the grab dredge is now in production. Owing to "teething" troubles, which are only to be expected, the dredge is not yet working to full capacity.

Tromal Prospecting, Ltd., which is financed by the associated companies of the Tronoh-Malayan Tin Group, has actively engaged in testing various areas in Siam, and although no area has yet been proved, results have been sufficiently encouraging to warrant additional boring, which is now being undertaken.

It is very gratifying to observe the harmonious relationship that existed between the management and labour during the year, and it is to be hoped that this will continue. I feel sure that this will be the case if good will and reasonableness are shown by both parties. It may be platitudinous, but perhaps not out of place, to remark that power does bring responsibilities—a fact that is sometimes forgotten.

I suppose what is uppermost in most shareholders' minds is what is going to happen after August 31 when the Federation of Malaya attains its independence within the Commonwealth. It is but natural that there should be some concern about the political risk involved, but this is a risk that is common throughout the world. On more than one occasion responsible Ministers have made reassuring statements about the safeguarding of overseas capital and encouraging the introduction of fresh capital. I firmly believe those statements to be genuine and sincere, and that the pledges given will be fulfilled. Consequently I view the future with confidence, and it is with that in view that prospecting work is being carried out by this Company and its associates.

There is one other comment I would like to make, and that is to express the hope that a way may be found to embody in the constitution direct representation in the Legislature of the two main industries—tin and rubber. The importance of these two industries in the economy of the country, to my mind, justifies such action.